

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (cancelled).

2. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that the Mn/Si ratio is greater than or equal to 3.

3. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that the thin strip is cast on a casting installation between two internally cooled rolls rotating in opposite directions.

4. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that hot-rolling of the strip is carried out in line with the casting of the strip.

5. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that the rate V of forced cooling after hot-rolling is such that

$$V \geq e^{1.98(\%Cu)-0.08}$$

wherein V is expressed in °C/s and %Cu in % by weight.

6. (currently amended): Process according to claim 1A Process for manufacturing a steel product made of copper-rich carbon steel, wherein:

- a liquid steel is produced, which has the following composition, expressed as percentages by weight:

* $0.1\% \leq C \leq 1\%$

* $0.5\% \leq Cu \leq 10\%$

* $0\% \leq Mn \leq 2\%$

* $0\% \leq Si \leq 5\%$

* $0\% \leq Ti \leq 0.5\%$

* $0\% \leq Nb \leq 0.5\%$

* $0\% \leq Ni \leq 5\%$

* $0\% \leq Al \leq 2\%$

the remainder being iron and impurities resulting from production;

- this liquid steel is cast directly into the form of a thin strip having a thickness less than or equal to 10 mm;

- the strip is cooled rapidly to a temperature less than or equal to 1000°C by spraying with water or a water/air mixture;

- the thin strip is subjected to hot-rolling at a reduction rate of at least 10%, the end-of-rolling temperature being such that, at this temperature, all the copper is still in a solid solution in the ferrite and/or austenite matrix;

- the strip is subjected to forced cooling so as to keep the copper in a supersaturated solid solution in the ferrite and/or austenite matrix;

- and the strip thus cooled is coiled, characterised in that the carbon content of the steel is between 0.1 and 1% and in that the strip is coiled at a temperature higher than the temperature M_s at the beginning of martensitic transformation.

7. (cancelled).

8. (currently amended): Process according to claim 7A Process for manufacturing a steel product made of copper-rich carbon steel, wherein:

- a liquid steel is produced, which has the following composition, expressed as percentages by weight:

* $0.1\% \leq C \leq 1\%$

* $0.5\% \leq Cu \leq 10\%$

* $0 \leq Mn \leq 2\%$

* $0 \leq Si \leq 5\%$

* $0 \leq Ti \leq 0.5\%$

* $0 \leq Nb \leq 0.5\%$

* $0 \leq Ni \leq 5\%$

* $0 \leq Al \leq 2\%$

the remainder being iron and impurities resulting from production;

- this liquid steel is cast directly into the form of a thin strip having a thickness less than or equal to 10 mm;

- the strip is cooled rapidly to a temperature less than or equal to 1000°C by spraying with water or a water/air mixture;

- the thin strip is subjected to hot-rolling at a reduction rate of at least 10%, the end-of-rolling temperature being such that, at this temperature, all the copper is still in a solid solution in the ferrite and/or austenite matrix;

- the strip is subjected to forced cooling so as to keep the copper in a supersaturated solid solution in the ferrite and/or austenite matrix;

- and the strip thus cooled is coiled at less than 300°C,
- the strip is subjected to a copper precipitation heat treatment at between 400
and 700°C, characterised in that the carbon content of the steel is between 0.1 and 1% and in
that- wherein the strip is subjected to precipitation heat treatment without being uncoiled
beforehand.

9. (cancelled).

10. (currently amended): Process according to claim 9claim 13, characterised in that
said precipitation tempering is carried out at between 600 and 700°C in a continuous annealing
installation.

11. (currently amended): Process according to claim 9claim 13, characterised in that
said precipitation tempering is carried out at between 400 and 700°C in a batch annealing
installation.

12. (cancelled):

13. (previously presented): Process according to claim 9 A Process for manufacturing a
steel product made of copper-rich carbon steel, wherein:

- a liquid steel is produced, which has the following composition, expressed as
percentages by weight:

* 0.1 % ≤ C ≤ 1%

* 0.5 ≤ Cu ≤ 10%

* 0 ≤ Mn ≤ 2%

* 0 ≤ Si ≤ 5%

* 0 ≤ Ti ≤ 0.5%

* 0 ≤ Nb ≤ 0.5%

* 0 ≤ Ni ≤ 5%

* 0 ≤ Al ≤ 2%

the remainder being iron and impurities resulting from production;

- this liquid steel is cast directly into the form of a thin strip having a thickness less than or equal to 10 mm;

- the strip is cooled rapidly to a temperature less than or equal to 1000°C by spraying with water or a water/air mixture;

- the thin strip is subjected to hot-rolling at a reduction rate of at least 10%, the end-of-rolling temperature being such that, at this temperature, all the copper is still in a solid solution in the ferrite and/or austenite matrix;

- the strip is subjected to forced cooling so as to keep the copper in a supersaturated solid solution in the ferrite and/or austenite matrix;

- and the strip thus cooled is coiled at less than 300°C, wherein coiling of the strip is carried out at a temperature which is both higher than the temperature M₅ at which the martensitic transformation begins and lower than 300°C, and is followed by cold-rolling, recrystallization annealing in a temperature range where the copper is in a supersaturated solid solution, forced cooling to keep the copper in a solid solution and precipitation tempering characterised in that the carbon content of the steel is between 0.1 and 1%.

14. (cancelled).

15. (currently amended): Process according to claim 9~~claim 13~~, characterised in that the carbon content of the steel is between 0.0005% and 0.05% and in that wherein its copper content is between 0.5 and 1.8%.

16. (original): Process according to claim 15, characterised in that, prior to precipitation hardening, the strip is cut to form a sheet which is shaped by drawing, and in that precipitation tempering is carried out on the drawn sheet.

17-18. (cancelled).

19. (new): Process according to claim 8, characterised in that the Mn/Si ratio is greater than or equal to 3.

20. (new): Process according to claim 8, characterised in that the thin strip is cast on a casting installation between two internally cooled rolls rotating in opposite directions.

21. (new): Process according to claim 8, characterised in that hot-rolling of the strip is carried out in line with the casting of the strip.

22. (new): Process according to claim 8, characterised in that the rate V of forced cooling after hot-rolling is such that

$$V \geq e^{1.98(\%Cu)-0.08}$$

wherein V is expressed in °C/s and %Cu in % by weight.

23. (new): Process according to claim 13, characterised in that the Mn/Si ratio is greater than or equal to 3.

24. (new): Process according to claim 13, characterised in that the thin strip is cast on a casting installation between two internally cooled rolls rotating in opposite directions.

25. (new): Process according to claim 13, characterised in that hot-rolling of the strip is carried out in line with the casting of the strip.

26. (new): Process according to claim 13, characterised in that the rate V of forced cooling after hot-rolling is such that

$$V \geq e^{1.98(\%Cu)-0.08}$$

wherein V is expressed in °C/s and %Cu in % by weight.